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OBSERVATIONS ON THE VEGETATION OF PARALI FOREST, NILGIRIS—TAMIL NADU

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INTRODUCTION

This area is mostly covered by scrub jungles, though there are a few patches of evergreen sholas, semi evergreen forests along the river banks and dry deciduous forests in certain other areas.

The Nilgiri slopes may be divided into a western block and a northern block with reference to Mettupalyam town. The area under exploration comes under the western block which includes (a) Hulical Durg Reserve Forest, (b) Pillur Slopes Reserve Forest and (c) Nellithorai Reserve Forest. Of these the Pillur slopes are the steepest, the ground suddenly falling from 1700 m to 500 m which facilitated the Tamil Nadu Electricity Board to have the tunnel system of water for producing Electricity. The Manar river (with its feeder Shappai Guddai Pallam), Kilparh Stream, Niralai Pallam, Chengal Pallam and the Kallumadari Pallam, all tributaries of the Bhavani River drain into this western block.

The soil here is gneissic. In certain places the soil type varies very much. Along the hills the soil varies from patches of black clayey soil to a shallow reddish loam. In the plains soil is shallow and stony. The plains and the lower slopes of this area are subjected to a very hot and dry climate. Strong winds and dust—storms are common in the hot months. During the months of November, December and January the weather becomes pleasant but never cold. In May, thunderstorms with occasional bursts of rain are common all over the tract. The average annual rainfall is about 75 cm in the plains along the foot-hills (increasing to about 120 cm towards the top of the hills). In this area both the monsoons are effective, but much of the precipitation is from the North-East Monsoon.

PLANTATIONS

Santalum album L., occurs naturally in this forest and the forest department is also cultivating this species for commercial purposes. Bamboo and Teak plantations occur in the Hulical Durg area. Areca and Banana plantations are present in certain low lying places in upper Geddhai area and along the banks of the Kundha River.

VEGETATION

Scrub jungles are found at low altitudes varying from 300 to 400 m. The main components of this type of forests are *Asparagus racemosus* Willd., *Atalantia monophylla* (L.) Correa, *Barleria mysorensis* Roth, *Capparis sepiaria* L., *Caralluma adscendens* (Roxb.) Haw., *Carmona microphylla* (Lamk.) G. Don, *Cassia auriculata* L., *Chenopodium ambrosioides* L., *Cissus pallida* (Wight & Arn.) Planch., *Cleome monophylla* L., *Commiphora berryi* (Arn.) Engl., *C. caudata* (Wight & Arn.) Engl., *Cordia dichotoma* Forst. f., *Crotalaria verrucosa* L., *Dichrostachys cinerea* (L.) Wight & Arn., *Flacourtia indica* (Burm. f.) Merrill, *Jatropha curcas* L., *Maba buxifolia* (Rottl.) A. L. Juss., *Martynia annua* L., *Mimosa intsia* L., *Murraya paniculata* (L.) Jacq., *Notonia grandiflora* DC., *Opuntia monocatha* Haw., *Pleiospermium alatum* (Wall. ex Wight & Arn.) Swingle, *Prosopis juliflora* DC., *Pterolobium hexapetalum* (Roth) Sant. & Wagh, *Randia candolleana* Wight & Arn., *Toddalia asiatica* (L.) Lamk. var. *gracilis* Gamble, *Tribulus terrestris* L., *Xanthium strumarium* L., *Xeromphis spinosa* (Thunb.) Keay, *Ziziphus trinervia* Roxb., Z. *xylopyra* (Retz.) Willd. etc.

Some of the common trees found in this area are *Acacia suma* Buch.-Ham., *Bischofia javanica* Bl., *Celtis cinnamomea* Lindl., *Dalbergia paniculata* Roxb., *Diospyros peregrina* (Gaertn.) Gurke, *Ficus tomentosa* Roxb., *Givotia mohiccana* (L.) Sreemadhavan, *Hardwickia binata* Roxb., *Hemicyclia sepiaria* Wight & Arn., *Hydnocarpus laurifolia* (Dennst.) Sleumer, *Manilkara roxburghiana* (Wight) Dubard, *Melia composita* Willd., *Mitrephora heyneana* Thw., *Piliostigma malabaricum* (Roxb.) Benth., *Putranjiva roxburghii* Wall., *Stereospermum personatum* (Hassk.) Chatterjee, *Tamarindus indica* L., *Trema orientalis* (L.) Bl. and *Walsura piscidia* Roxb., etc.

Wild lofty trees of *Mangifera indica* L., are common in this forest and are growing especially on the banks of the Manar River. Climbers and climbing shrubs like *Basella rubra* L., *Capparis roxburghii* DC., *Cardiospermum canescens* Wall., *Cayratia pedata* (Lam.) Juss. ex Gagnep., *Cissampelos pareira* L. var. *hirsuta* (Buch.-Ham. ex DC.) Forman *Corallocarpus epigaeus* (Rottl. & Willd.) C. B. Cl., *Derris brevipes* (Benth.) Baker, *Dioscorea oppositifolia* L., *Elaeagnus indica* Servettaz, *Gnetum ula* Brongn., *Jasminum auriculatum* Vahl, *Leptadenia reticulata* (Retz.) Wight & Arn., *Morinda umbellata* L., *Opilia amentacea* Roxb., *Pachygone ovata* (Poir.) Hook. f. & Thoms., *Passiflora foetida* L., *Tetrastigma lanceolarium* (Roxb.) Planch., etc., are found commonly in this forest. Due to the favourable conditions the vegetation on the river banks of Kundha and Bhavani are more dense and almost evergreen. Here, plants like *Ardisia solanacea* (Poir.) Roxb., *Asclepias curassavica* L., *Begonia malabarica* Lamk., *Cucumis melo* L. var. *cultus* Oks., *Gnetum ula* Brongn., *Homonia riparia* Lour., *Madhuca longifolia* (L.) Macbride, *Mallotus stenanthus* Muell.-Arg., *Mimosa intsia* L. and *Putranjiva roxburghii* are found abundantly.

The most common shrubs found in this type of forests are *Ehretia ovalifolia* Wight, *Grewia hirsuta* Vahl, *Hibiscus platanifolius* Sw., *Maerua oblongifolia* A. Rich., *Pleurostylia opposita* (Wall.) Alston, *Premna tomentosa* Willd., *Securinega leucopyrus* (Willd.) Muell.-Arg., *Solanum torvum* Sw., and *Tarenna asiatica* (L.) Alston.

The ground flora consists of herbs like *Acalypha alnifolia* Klein, *Andrographis echioides* (L.) Nees, *Blainvillea acmella* (L.) Philip., *Cassia absus* L., *C. floribunda* Cav., *Celosia argentea* L., *Cleome monophylla* L., *Coleus forskohlii* (Poir.) Briq., *Crotalaria mucronata* Desv., *Eragrostis unioloides* (Retz.) Nees ex Steud., *Euphorbia geniculata* Ort., *Martynia annua* L., *Physalis minima* L., *Sebastiana chamaelea* Muell.-Arg., *Setaria pallidefusca* (Schum.) Stapf & C. E. Hubb., *Solanum nigrum* L., *Stachytarpheta jamaicensis* (L.) Vahl, *Tribulus terrestris* L., *Trichodesma indicum* (L.) R. Br. etc.

Epiphytic orchids are more common than the terrestrial ones in this area. *Acampe praemorsa* (Roxb.) Blatt. & McC., *Aerides ringens* (Lindl.) Fischer, *Cymbidium aloifolium* Sw., *Vanda tessellata* Hook. ex G. Don and *V. testacea* (Lindl.) Reichb. f., are the common epiphytic orchids.

Rare and interesting orchids like *Vanda spathulata* Spr., *Eulophia macrostachya* Lindl. and *Vanilla walkeriae* Wight are found in this forest. *Vanda spathulata* Spr., often starts terrestrially and later attaches itself to shrubs and becomes entirely epiphytic. The other two rare orchids, so far not represented in the Madras Herbarium, have now been collected from this area. *Vanilla walkeriae* Wight is a terrestrial, leafless green terete-stemmed orchid with the green fruits.

One new variety of orchid, *Thrixspermum muscaeflorum* A. S. Rao & Joseph var. *nilagiricum* Joseph & Vajravelu has been discovered in this forest, also this genus is a new record for South India.

Some of the ferns collected include *Actiniopteris dichotoma* Forsk., *Cheilanthes mysorensis* Wall., *Dryopteris mollis* (Desv.) Hieron, *Pellaea concolar* Lang. & Fisch., *Pteris vittata* L., etc.

Sebastine (1960) has given a detailed accounts of Hulical Durg forests. The following brief account supplements that.

The vegetation in Hulical Durg area is more or less of a semi-evergreen type. The chief components of are as follows : *Bischofia javanica* Bl., *Bupleurum wightii* P. K. Mukh., *Crotalaria obtecta* Grah. ex Wight, *Cyanotis arachnoidea* Clarke, *Elatostema sessile* Forst. var. *cuspidata* Wedd., *Macrosolen parasiticus* (L.) Dans., *Embelia basal* (Roem. ex Schult.) A. DC., *Excoecaria crenulata* Wight, *Knoxia mollis* Wight & Arn., *Leucas helianthemifolia* Desv., *Maytenus emarginata* (Willd.) Ding Hou, *Photinia lindleyana* Wight & Arn., *P. notoniana* Wight & Arn., *Pouzolzia bennettiana* Wight, *Psychotria elongata* (Wight) Hook. f., *Smilax aspera* L., *Turpinia nepalensis* Wall. ex Wight & Arn. etc.

Minor forest products like fruits of *Carissa carandas* L., *Emblica officinalis* Gaertn., *Sapindus emarginatus* Vahl and leaves of *Murraya koenigii* Spr. (the curry leaves) are usually collected by the local people from this forest. Honey is also collected by the local people from this forest.

Thus the Parali Forest is very interesting for the study of Vegetation and Forest types. Altogether 326 species have been collected critically studied, and deposited in Madras Herbarium, Botanical Survey of India, Coimbatore.